

VI. *The larva and pupa of Caligo memnon, Feld.* By
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[Read May 5th, 1915.]

PLATE XXIX.

So little has been published about the earlier stages of this insect that the following notes of observations made at Belize, British Honduras, may be worth placing on record.

The larvae, almost full grown and three in number, were found on the 22nd and 24th of December 1914, on the brick wall of a church in close proximity to a banana plant, a few of the leaves of which touched the wall. This faced north and was well shaded by tall shrubs. It appears to me that the larvae crawled from the banana leaves, escaping daylight as much as possible by placing themselves in dark corners of this wall. I surmise that they returned to their food-plant about sundown each evening, though how they could find their way to it is a mystery to me. During the day I found these larvae very lethargic, remaining in the same position for hours together, and refusing food; but at night they became very active and ate voraciously the banana leaves supplied to them. They were nearly full fed, for on the 24th December one of them got in position for pupation by suspending itself head downwards, the body hanging free, and only the anal extremity attached to a small web on the lid of the box. The pupa appeared on the 26th December, but unfortunately, I suppose during the active movements necessary to cast off the larval skin, the pupa had become detached and fell a few inches to the bottom of the box. Here it lay on one side, and this side was imperfectly developed, being flattened out while the opposite side was normally developed. The larva was photographed on the 22nd December, and the photograph accompanies this communication. The second larva began to show signs of a change on the 27th December. Like the first one, it also constructed a small web on the lid of the box but did not succeed any better in attaching itself, for on the 29th December I found the larva itself at the bottom of the box in a very

TRANS. ENT. SOC. LOND. 1915.—PART II. (AUG.)

advanced stage towards pupation. The fall was not more than four inches. I placed a piece of soft lint under it, thinking in this way to lessen the pressure, but on the 30th I found the pupa flattened out on the side it lay on in the same way as the first. This one died. The third larva died when it appeared to be getting ready to pupate.

The length of the fully-grown larva is $4\frac{1}{2}$ inches and the diameter through the thickest part of the body about $\frac{1}{2}$ inch. The body gradually tapers towards the head and tail, the central portion being the thickest. The general colour is a light fawn varied with darker fawn; the whole body covered with small fine hairs of a somewhat lighter colour closely set. Along the sides of the body are obliquely placed and parallel streaks at short intervals of a darker fawn than the general ground-colour, with a direction from the head downwards and backwards. At their lower extremities these streaks are connected together by a line of the same colour extending from the head to the anal extremity. The whole gives the appearance of a zigzag. Along the centre of the back a thin black line extends from the head to the tail. Half an inch from the head this line divides into two, enclosing a very narrow space about half an inch long, of a paler tint than the general ground-colour. From the central longitudinal black line run oblique streaks of the same colour as the oblique streaks on the sides of the body, and parallel with them, in a direction from the head downwards and backwards. A little in front of the centre of the body this longitudinal black line is interrupted by an oval patch of a buff colour which shows up very conspicuously. This patch is about one-third of an inch in length and one-eighth of an inch in width. The longitudinal dorsal line runs through the centre, but its colour is changed to dark brown within the patch. Springing from the central dorsal black line are what appear to be very sharp and thin pointed black spines standing vertically upwards. They are all very small, the longest of them scarcely more than one-eighth of an inch is always situated immediately in front of the oval buff-coloured patch before mentioned, and they spring from each junction of the segments of the body and gradually diminish in length as the head and tail are approached. On touching these formidable-looking spines I found them to be quite soft and easily bent. The head is of a lighter fawn colour than the rest of the body with darker markings and is covered thickly with short whitish hairs. Eight "horns" surround its edge, three on each side which are quite small at the lower part but gradually increase in length as the upper portion of the head is reached; and two on the summit of the head. These last two are

the longest and measure one-fifth of an inch in length. They are directed backwards, as are the others, and gradually diverge from each other, producing a V-like figure, the point of the V being at the attachment to the head. The anal extremity terminates in a forked appendage about half an inch in length, and closely covered with short whitish hairs. The prolegs are a bright reddish brown.

The pupa is $1\frac{1}{2}$ inches in length; colour a yellow drab with blotches of grey irregularly scattered over it. The wing cases are rather strongly angled and stand out at right angles to the rest of the body. In the centre of the wing case, at its upper part is a double silver spot (†) both parts of which are of small size but the upper is the larger. There is a well-marked thoracic hump on the dorsal surface. A thin dark brown line extends the whole length of the dorsum, and from this line and on each side of it spring tufts of very short small and fine black bristles.

Both pupae were photographed, and the photos accompany this Paper.

One imago emerged on the 12th January, 1915, but was, as I expected, malformed.

EXPLANATION OF PLATE XXIX.

FIGS. 1, 2. LARVA of *Caligo memnon*.

3, 4. Pupa ,, ,,